



**CYPRUS SIERRITA  
CORPORATION**  
A Cyprus Amax Company

*G. Bulloch*  
6200 W. Duval Mine Road  
Post Office Box 527  
Green Valley, Arizona 85622-0527  
(520) 648-8500

April 7, 1997

Jan Laney  
Water Resource Specialist  
Arizona State Land Department  
1616 West Adams  
Phoenix, Arizona 85007

**RE: Water Agreements Nos. 21-93375 through 21-93379**

Attached is the sign letter allowing Cyprus Bagdad to continue use of the wells until the auction and agreeing to pay the new appraised value withdrawn from March 19, 1997.

As to your comment regarding the Tucson water sale I would like to remind the State that Tucson is in a AMA and the Bagdad area is ~~not~~ a big difference. Also whatever the new appraise value might be if Bagdad feels that it is excessive we would have the right to appeal the appraisal.

I have transferred to the Tucson operation but will continue working on this project as needed, I would appreciate it if you would copy me on all future correspondence to Bagdad.

Mike Garfield  
Cyprus Bagdad Copper Corp.  
P.O. Box 245  
Bagdad, AZ. 86321

O. T. Owens  
Cyprus Sierrita Corp.  
P.O. Box 527  
Green Valley AZ. 85622-0527

If I can be any assistance you can call me anytime at (520) 648-8661.

Sincerely,

*O. T. Owens*

O. T. Owens  
Cyprus Sierrita

cc:  
M. Garfield

PDC001107



FIFE SYMINGTON  
GOVERNOR

Arizona  
State Land Department

1616 WEST ADAMS  
PHOENIX, ARIZONA 85007



J. DENNIS WELLS  
STATE LAND COMMISSIONER

March 20, 1997

O.T. Owens  
Land Management Engineer  
Cyprus Bagdad Copper Corporation  
P.O. Box 245  
Bagdad, Arizona 86321

RE: Water Agreements Nos. 21-93375 through 21-93379

Dear Terry:

In follow-up to our phone conversation last week, I have the following information: (1) The referenced water agreements expired on March 18, 1997. (2) The water appraisal for the applications (Nos. 21-102152 through 21-102156) has been requested but has not been prepared. (3) We are anticipating the water appraisal to be prepared for the applications in the near future. (4) In December of 1996 we had a water sale in Tucson, the water was appraised and sold at \$85.00 per acre-foot.

We recognize that Cyprus Bagdad's operation needs to continue using the wells. Therefore, by signing the bottom of this letter and returning it to ASLD, Cyprus Bagdad agrees to pay the Land Department for any water withdrawn from March 19, 1997 until the water auction date at the appraisal value or the water auction rate, whichever is greater.

I will continue to update you on the progress of the applications. If you have any questions, please call me at (602) 542-2671.

Sincerely,

Jan Laney  
Water Resource Specialist  
Water Rights Management Section

JL:ifg

Acknowledged by: O.T. Owens Date April 7, 1997

PDC001108

101014

ARIZONA STATE LAND DEPARTMENT  
APPRAISAL REVIEW AND APPROVAL

APPLICATION NO. 21-102154 Cyprus Bagdad Copper Co.

DATE OF VALUE March 31, 1997

MARKET VALUE ESTIMATE: \$85.00 Per Acre-Foot

APPRAISER: William J. Shaffer and Leon G. Olson

COMMENTS:

Certification

I certify that, to the best of my knowledge and belief:

The facts and data reported by the review appraiser and used in the review process are true and correct. The analyses, opinions, and conclusions in this review report are limited only by the assumptions and limiting conditions stated in this review report, and are my personal, unbiased professional analyses, opinions and conclusions.

I have no (or the specified) present or prospective interest in the property that is the subject of this report and I have no (or the specified) personal interest or bias with respect to the parties involved. My compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this review report. My analyses, opinions, and conclusions were developed and this review report was prepared in conformity with the Uniform Standards of Professional Appraisal Practice. I did not personally inspect the subject property of the report under review. No one provided significant professional assistance to the person signing this review report. (If there are exceptions, the name of each individual providing significant professional assistance must be stated.)

Edward C. Jones  
Edward C. Jones

Chief Appraiser  
Certified General  
Real Estate Appraiser  
No. 30480

4-22-97  
Date

Sidney G. Hathaway  
Sidney G. Hathaway, ASA

Review Appraiser  
Certified General  
Real Estate Appraiser  
No. 30013

4/22/97  
Date

\_\_\_\_\_  
J. Dennis Wells  
Commissioner  
STATE LAND DEPARTMENT /mlh

\_\_\_\_\_  
Date

APPLICATION NO. 21-102154

**BOARD OF APPEALS:**

Date Approved: \_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
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Review.ctf (8/91)

PDC001110

ARIZONA STATE LAND DEPARTMENT  
APPRAISAL REPORT SUMMARY

APPLICATION NO. 21-102154

APPLICANT: Cyprus Bagdad Copper Co., A Delaware Cooperation

PURPOSE: The purpose of this appraisal is to estimate the MARKET VALUE of ground water extracted from Arizona State Trust lands as of March 31, 1997.

LOCATION: Well site is situated approximately 7 miles northeast of the Bagdad.

LEGAL DESCRIPTION OF WELL SITE:

Section 1, T.15N, R.9W, M&B in NWSESW ..... 20.00 acres

SITE DESCRIPTION: Fenced well site.

IMPROVEMENTS: None Appraised

HIGHEST AND BEST USE: Highest and Best Use of ground water on trust land is to be sold.

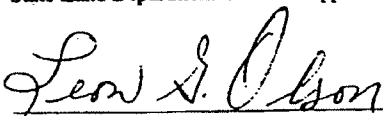
QUANTITY: 80 acre feet

DATE OF VALUE: March 31, 1997

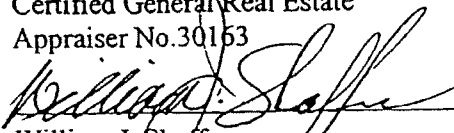
ESTIMATE OF VALUE OF SUBJECT GROUND WATER: \$85.00 per acre-foot

COMMENTS:

This is a Self-contained Appraisal Report. It is in conformance with State Land Department policies and complies with the State Land Department Uniform Appraisal Standards and Procedures.



Leon G. Olson  
Certified General Real Estate  
Appraiser No. 30163



William J. Shaffer  
Certified General Real Estate  
Appraiser No. 30006

Apr. 21, 1997  
Date

April 17, 1997  
Date

APPRAISA.COV (Rev.09/94)

PDC001111

**AN APPRAISAL OF THE UNIT VALUE OF GROUND WATER FOR**  
**PUBLIC AUCTION SALE, APPLICATION NO. 21-102154**  
**CYPRUS BAGDAD COPPER COMPANY**  
**A DELAWARE CORPORATION**

**PREPARED FOR**

**ARIZONA STATE LAND DEPARTMENT**  
**1616 WEST ADAMS**  
**PHOENIX, ARIZONA 85007**

**PREPARED BY**

**WILLIAM J. SHAFFER**

**AND**

**LEON G. OLSON**

**ARIZONA STATE LAND DEPARTMENT**  
**1616 WEST ADAMS**  
**PHOENIX, ARIZONA 85007**

**DATE OF VALUE**  
**MARCH 31, 1997**

**PURPOSE OF THE APPRAISAL:**

The purpose of this appraisal is to estimate the **MARKET VALUE** of ground water extracted from Arizona State Trust lands as of March 31, 1997.

In 1974, the Arizona State Supreme Court ruled in its decision of "Farmers Investment Company vs. Pima Mining Company" that ground water on Arizona State Trust lands is a natural product of the land and must be sold based on its market value in the same manner as all other natural products associated with State Trust lands.

Section 28 of the Enabling Act provides:

"Disposition of any lands, or of any money or thing of value directly or indirectly derived therefrom, for any object other than for such particular lands, or the lands from which such money or thing of value shall have been derived, were granted or confirmed, or in any manner contrary to the provisions of this Act, Shall be deemed a breach of the trust."

"All lands, leaseholds, timber and other products of the land, before being offered, shall be appraised at their true value, and no sale or other disposal thereof shall be made for a consideration less than the value so ascertained, nor upon credit unless accompanied by ample security, and the legal title shall not be deemed to have passed until the consideration shall have been paid."

Market value is defined as:

"The most probable price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus."<sup>1</sup>

Implicit in this definition is the consummation of a sale as of a specified date and passing of title from seller to buyer under conditions whereby:

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<sup>1</sup> Real Estate Appraisal Terminology, Byrl N. Boyce, The American Institute of Real Estate Appraisers and The Society of Real Estate Appraisers, Cambridge, Mass., Ballinger Publishing Co., 1981, pages 160-161.

**PURPOSE OF THE APPRAISAL CONTINUED:**

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and each acting in what he considers his own best interest;
3. A reasonable time is allowed for exposure in the open market;
4. Payment is made in cash or its equivalent;
5. Financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale;
6. The price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs or credits incurred in the transaction.

**SCOPE OF THE INVESTIGATION:**

As part of this appraisal assignment, the Appraisers made a number of independent investigations and analysis. The Appraiser interviewed brokers that took an active part in water sale transactions, water managers for Salt River Project and Central Arizona Water Conservation District. Contacts were made with several other states actively involved in the sale of water, including the states of California, Colorado, New Mexico, Montana, Oklahoma, Hawaii, Alaska, Wyoming and Utah. The monthly publication "Water Intelligence Monthly" was also used for a source of water sale information. Data retained in office files, which is updated regularly, was relied upon. Sales comparable data is included, along with the appropriate analysis.

**LEGAL DESCRIPTION:**

Metes and bounds in the northwest quarter of the southeast quarter of the northwest quarter of Section 1, Township 15 North Range 9 West, Yavapai County, Arizona.

containing ..... 10.00 acres



**AREA DATA:**

The subject lies approximately seven miles northeast of the central business district of Bagdad, Arizona. This area lies in the western part of the Yavapai County.

**WATER SOURCE:**

Cyprus Bagdad Copper Corporation is utilizing the subject ground water for domestic, municipal and industrial purposes. The subject water is being transported to its point of treatment and use by a pipe line. Arizona Department of Water Resources well registration number for this wells is 55-614782. The depth of the well is 700 feet, the casing sizes is 14 inch, the pumps horse power is 90 and the well capacity are 63 gallons per minute.

**SUBJECT DESCRIPTION:**

The subject of this report is a lease to withdraw 80 acre feet of ground water per year for a ten year term, The source of the water is a well that has been described above.

**HIGHEST AND BEST USE:**

Highest and Best Use can be defined as that probable use which would generate the highest net return. In 1974, the Arizona State Supreme Court decision "Farmers Investment Company vs. Pima Mining Company" ruled that ground water on State Trust lands is a natural product of the land and must be sold at market value. Therefore, Highest and Best Use of ground water on Arizona State Trust land will be analyzed based on the following four standard considerations:

Highest and Best Use must meet four criteria:

1. Physically possible
2. Legally permissible
3. Financially feasible
4. Maximum profitability

**Physically Possible:**

There are no physical constraints which would prevent ground water from being extracted from the subject area.

**HIGHEST AND BEST USE CONTINUED:**

**Legally Permissible:**

The Arizona State Land Department has the sole authority to grant leases for extraction of ground water from Trust lands. There are no legal restrictions, zoning or otherwise, which would prevent the extraction of ground water from the subject land.

**Financially Feasible/Maximum Profitability:**

The successful bidder would not enter into a contractual agreement to purchase ground water unless such an enterprise was financially feasible. Predicated on demand, any use of ground water extracted from Trust lands can be considered financially feasible.

Sale of ground water extracted from State Trust lands would generate maximum profitability, since if not sold no revenue would be generated from this natural product.

Based on the above analysis, it is the Appraiser's opinion that the Highest and Best Use of ground water on Trust lands is to be sold.

**VALUATION PROCESS:**

Typically, Real Estate can be valued by applying three approaches to value, i.e., Cost, Income and Sales Comparison.

**COST APPROACH -**

"A set of procedures in which an appraiser derives a value indication by estimating the current cost to reproduce or replace the existing structure, deducting for all accrued depreciation in the property, and adding the estimated land value."<sup>2</sup>

"The approach and analysis which is based on the proposition that the informed purchaser would pay no more than the cost of producing a substitute property with the same utility as the subject property. It is particularly applicable when the property being appraised involves relatively new improvements which represent the highest and best use of the land or when relatively unique or specialized improvements are located on the site and for which there exist no comparable properties on the market."<sup>3</sup>

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<sup>2</sup> The Dictionary of Real Estate Appraisal, American Institute of Real Estate Appraisers, 1984, page 75.

<sup>3</sup> Byrl N. Boyce (ed.), Real Estate Appraisal Terminology, The American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers (1st ed. rev.; Cambridge, Mass., Ballinger Publishing Co., 1981, page 63).

**INCOME CAPITALIZATION APPROACH -**

"An approach through which an appraiser derives a value indication for income-producing property by converting anticipated benefits into property value. This conversion is accomplished either by (1) capitalizing a single year's income expectancy or an annual average of several year's income expectancies at a market-derived capitalization rate or a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of the investment; or (2) discounting the annual cash flows for the holding period and the reversion at a specified yield rate."<sup>4</sup>

**SALES COMPARISON APPROACH -**

Traditionally, an appraisal procedure at which the market value estimate is predicted upon prices paid in actual market transactions and current listings, the former fixing the lower limit of value in a static or advancing market (price wise), and fixing the higher limit of value in a declining market; and the latter fixing the higher limit in any market. It is a process of analyzing sales of similar recently sold properties in order to derive an indication of the most probable sales price of the property being appraised. The reliability of this technique is dependent upon (a) the availability of comparable sales data, (b) the verification of the sales date, (c) the degree of comparability or extend of adjustment necessary for time differences and (d) the absence of non-typical conditions affecting the sale price.<sup>5</sup>

**VALUATION MARKET APPROACH (SALES COMPARISON):**

The subject ground water will be appraised utilizing the Sales Comparison Approach. The Cost Approach is not applicable and will not be employed. There is insufficient data to produce a meaningful estimate of value utilizing the Income Approach.

The Sales Comparison Approach is based on the principle of substitution, which affirms that no one will pay more for the cost per acre foot of water than the cost of acquiring an equally desirable substitute per acre foot of water, assuming no undue or costly delay. In implementing this approach, a search is made in the market to find sales of water having similar characteristics to the subject.

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<sup>4</sup> The Dictionary of Real Estate Appraisal, American Institute of Real Estate Appraisers, 1984, page 156.

<sup>5</sup> Ibid, page 132

In comparing a comparable sale to the subject it is necessary to develop a common unit of comparison. Typically, in the market place, water is valued based on an acre foot. Acre-Foot is defined as "The volume of water, 43,560 cubic feet, or 325,851 gallons, that will cover an area of one acre to a depth of one foot." This unit of comparison is considered to be the most meaningful, and will be utilized in this valuation.

#### **VALUATION:**

A thorough search was conducted to obtain similar water transactions for comparison. It was found that a scarcity of available market data exists that met the minimum criteria. Because conditions and characteristics of any two sales are not exactly the same, adjustments will be considered to reflect the differences so that a valid estimate of value may be made. The following sales are regarded as a representative sample.

#### **RÉSUMÉ OF WATER COMPARABLES**

<b>COMP. NO.</b>	<b>DATE</b>	<b>LOCATION</b>	<b>TYPE</b>	<b>QUANTITY ACRE-Feet</b>	<b>UNIT PRICE PER ACRE-FOOT</b>
1	1992	Southern California	Sale	92,989/Ac.Ft.	\$135/Ac.Ft.
2	1993	Southern California	Sale	100,000/Ac.Ft.	\$ 68/Ac.Ft.
3	Pending	Southern California	Sale	200,000/Ac.Ft.	\$105/Ac.Ft.
4	1996	Southwest Oklahoma	Lease	'95-163/Ac.Ft. '94-82/Ac.Ft.	\$ 80/Ac.Ft.
5	1995	Southwest Oklahoma	Lease	'95-192/Ac.Ft. '94-169/Ac.Ft.	\$ 70/Ac.Ft.
6	1996	Northeast Oklahoma	Lease	'95-50.3/Ac.Ft. '94-54/Ac.Ft.	\$ 72/Ac.Ft.
7	Pending	State of Colorado	Lease	4,000/Ac.Ft.	\$80-90/Ac.Ft.
8	Current	State of Arizona	Sale		\$ 65/Ac.Ft.
9	1997	State of Arizona	Lease	150-520/Ac.Ft.	\$85/Ac.Ft.

The transactions cited above indicate dates ranging from 1992 to present and have a value range from a low of \$65.00 per acre-foot to a high of \$135.00 per acre-foot.

**DISCUSSION OF ADJUSTMENTS:**

Frequently in the Market Approach, the degree or amount of the adjustments are determined by the use of the paired sales technique, when possible. As in the case of the subject there is insufficient data to extract adjustments by this method, thus, resulting in the Appraiser relying heavily on judgement and experience.

**CONDITIONS OF SALE:**

Inherent in the definition of market value is that buyer and seller be typically motivated. We have analyzed the comparable sales with respect to the motivation of both buyer and seller. Often the conditions of sale impact the final purchase price of the comparable. All of the comparables were confirmed and with the exception of Sale 1, were considered to be at "arms length". Sale 1 was a transaction between farmers in the Palo Verde Irrigation District (California) and Metropolitan Water District (Southern California Cities). Because Southern California is in critical need of domestic water supplies, it has been placed in a position of a higher degree of motivation to pay a higher unit price than would the general market. A downward adjustment will be applied to Sale 1 for conditions of sale.

**TERMS OF SALE:**

No adjustment for Terms is required, since each transaction was for cash.

**MARKET CONDITIONS (TIME):**

Adjustment for time is required for comparables 2. Sale 3 is a pending sale between the same buyer and seller as in sale 2. Both sale 2 and 3 are purchases of "stored" Colorado River water to be available for future use.

**QUANTITY:**

In general, the market recognizes that there can be a difference in unit price attributed to quantity. The greater the quantity of volume of a commodity the lower the unit price. Conversely, the lesser the quantity the higher the unit price. An upward adjustment will be applied to sale seven.

**WATER QUALITY:**

Water involved in sales 1, 2 and 3 is Colorado River water at the bank of the river. In March 1986, a water quality study was conducted of Colorado River Water. This study found the water to contain 537 mg/L of dissolved solids. During transportation of this water via canal, the concentration of dissolved solids will increase to even higher levels. The United States Environmental Protection Agency has established national regulations and guidelines for the quality of potable water, provided by public water systems, at a maximum of 500 mg/L. Irrigation water with less than 500 mg/L of dissolved solids usually has no noticeable detrimental effect on crops. Above 500 mg/L of dissolved solids irrigation water has detrimental effects on sensitive crops. Much of the water currently extracted from Arizona Trust lands has a dissolved solids content of less than 500 mg/L. Although in a few areas throughout the state the fluoride concentration is above the acceptable limit for public water supplies, overall ground water is of a higher quality than the Colorado River surface water. Upward adjustments will be made to these sales for their inferior quality.

**DELIVERY COST:**

No adjustment will be made for delivery cost, since there were no delivery cost associated with any of the comparables.

**DISCUSSION AND ANALYSIS OF COMPARABLES:**

**COMPARABLE NUMBER 1:**

Comparable number 1 encompasses a program involving farmers in the Palo Verde Irrigation District (near Blyth, California) being paid to fallow a portion of their land. The water gain was computed at 4.6 acre feet per acre per year at the head of the canal. This program was paid for by the Metropolitan Water District (southern California communities). Total acreage fallowed under this program was 20,215 acres and generated 92,989 acre feet of water. Since this water was purchased at the canal head, no delivery cost was included in the unit price paid. This program was well received by farmers and in fact, many additional farmers expressed interest in participating in similar programs.

**COMPARABLES NUMBER 2 & 3:**

The Central Arizona Water Conservation District (CAWCD) entered into a joint agreement with the Southern Nevada Water Authority (SNWA) and the Metropolitan Water District (MWD) of Southern California to purchase Colorado River water for future delivery. Arizona was paid \$68.00 per acre foot for the future rights to 100,000 acre feet of water. Currently there is a similar 200,000 acre foot sale pending (sale 3) between the same parties for \$105.00 per acre foot. These two sales

represent transactions involving water to be delivered at the Colorado River bank. No delivery costs were included in the unit price paid.

**COMPARABLES NUMBER 4, 5 & 6:**

These three leases have been granted by the State of Oklahoma, Commissioners of the Land Office to individual municipal water companies for extraction of water from state school lands. Each lessee is charged for ground water pumped from state school lands. The rate assessed is based on rates paid by municipal water companies in Oklahoma for water. Representatives of the Commissioners of the Land Office indicated that the current rates assessed are based on a study of what municipal water companies paid for water several years ago. These rates have been increased but at this time are somewhat below market value. The unit price for these three leases range from \$70.00 to \$80.00 per acre-foot.

**COMPARABLE NUMBER 7:**

The State of Colorado has granted a lease to Ridgeview Metropolitan District and PureCyle Corporation to pump ground water from the old Lowry Bombing Range (Colorado state land). Ground water pumped from the old Lowry Bombing Range can be sold off the property. A royalty, based on the fair-market value of the water, goes to a trust fund for elementary and secondary schools. Currently, the Army Corps of Engineers is negotiating with Ridgeview Metropolitan District and PureCyle Corporation for delivery of 4,000 acre-feet per year of Lowry Bombing Range ground water, to be delivered off the state land. Water obtained by the Army Corps of Engineers will be used to mitigate ground water contamination on the Rocky Mountain Arsenal. Bill Killip, Special Project Manager, Colorado State Board of Land Commissioners, indicated that this transaction would be finalized within less than one year and generate a royalty of \$80.00 to \$90.00 per acre-foot annually.

**COMPARABLE NUMBER 8:**

Currently there are approximately 70 individual active water sales in conjunction with well site leases authorized by the Arizona State Land Department. Uses of ground water withdrawn from the active leases include: homesite (domestic uses), commercial use, institutional use (state institutions), industrial use, and mining use. The leases have been paying \$65.00 per acre-foot, on an annual basis, for approximately the past ten years.

**COMPARABLE NUMBER 9:**

Comparable Sale Number 9 is a State of Arizona lease to Santa Rita Ranch General Partnership to pump groundwater from state trust land to the Santa Rita County Club Golf Course located in the community of Corona De Tucson. It is to be used for turf irrigation on the golf course. The water was sold at public auction for \$85.00 per acre foot. The amount of water allowed per year under the terms of the lease is 150 acre feet minimum to 520 acre feet maximum. The lease is for a ten year term.

**CONCLUSION:**

Comparables 1, 2 & 3 are all Colorado River surface water sales. As previously discussed, a water quality conducted indicated that the dissolved solids contents were above the acceptable E.P.A. guidelines for potable water. After adjusting Sale 1 downward for conditions of sale and upward for inferior water quality, Sale 2 upward for market conditions and water quality and Sale 3 upward for inferior water quality, these sales indicated values of \$110.00 per acre foot, \$105.00 per acre foot and \$105.00 per acre foot respectively. Therefore, these sales suggest a value for the subject of something less than \$110.00 per acre foot and something above \$105.00 per acre foot. Less reliance was placed on these comparables primarily due to their surface water characteristics.

Comparables 4, 5 & 6 are ground water leases for sale of water in the State of Oklahoma. These leases indicated values of \$80.00 per acre foot, \$70.00 per acre foot and \$72.00 per acre foot respectively. The comparables, which were considered to be very similar to the subject in most respects, required no adjustment and suggests a value for the subject of something less than \$80.00 per acre foot and something above \$70.00 per acre foot.

Comparable 7 involves a lease granted by the State of Colorado to Ridgeview Metropolitan District and PureCyle Corporation to pump ground water from the old Lowry Bombing Range (Colorado state land). Ground water pumped from this state land can be sold off of the property. A royalty, based on the fair-market value of the water, is paid to a trust fund for elementary and secondary schools. Currently, the Army Corps of Engineers is negotiating with Ridgeview Metropolitan District and PureCyle Corporation for delivery of 4,000 acre-feet per year of Lowry Bombing Range ground water, to be delivered off of the state land. Water obtained by the Army Corps of Engineers will be used to mitigate ground water contamination on the Rocky Mountain Arsenal. Bill Killip, Special Project Manager, Colorado State Board of Land Commissioners, indicated that this transaction would be finalized within less than one year and generate a royalty of \$80.00 to \$90.00 per acre-foot annually. The large quantity of ground water involved in this pending transaction indicates an upward adjustment for size, suggesting a value for the subject of something above \$90.00 per acre-foot.



Comparable 8 includes approximately 70 individual active water leases authorized by the Land Department. Because the unit value for this comparable was set administratively with little market data support, less reliance was placed on this comparable sale.

Comparable 9 is a current sale that was sold at public auction for \$85.00 per acre foot of ground water. The lease application is for the right to use a minimum of 150 acre feet and a maximum of 520 acre feet of ground water annually for ten years. This comparable sale was considered to be similar to the subject in most respects and required no adjustment. This sale indicates a value of \$85.00 per acre feet for the subject.

As previously stated, less reliance was placed on comparables 1, 2 & 3 due to their surface water characteristics. The unit value of \$65.00 per acre foot for comparable number 8 was set administratively, with little or no market support. The fact that the Land Department has been selling ground water in the market place at this unit value for several years, clearly establishes that there is a market demand for this product; thus, this price tends to set the absolute lower limit of value.

Like the subject, comparables 4 through 7 and 9 are ground water leases, for sale of water, indicating an adjusted range of unit values between \$100.00 per acre foot and \$70.00 per acre foot. Of the five comparables, the least reliance was placed on comparable 7, due to quantity of use. After placing the most reliance on comparables 4, 5, 6, and 9 the value range narrows closer between \$85.00 per acre foot and \$70.00 per acre foot. Comparable 9 which is the most current and very similar to the subject strongly suggests a value towards the upper end of the range. After placing the most weight on comparable 9 with strong support from comparables 4, 5, and 6, the market value for the subject ground water is estimated to be \$85.00 per acre foot.

#### **DEPARTURE:**

The preceding is a departure from the minimums as established by USPAP but is not so limited in scope as to mislead the reader. All data upon which this value conclusion is predicated is maintained in the files of the State Land Department Appraisal Section.

This report is a Self-Contained Appraisal Report intended for use solely by the requestor for the specific purposes as specified in the lease file referenced above. If utilized for any other purpose this report cannot be properly understood without additional information from the work files of the Appraiser.

Under Standards Rule 2-2 of the Uniform Standards of Appraisal Practice (1995 Edition), an Appraiser may transmit the results of a complete appraisal in one of three formats: The Self-Contained Appraisal Report, the Summary Appraisal Report, or the Restricted Appraisal Report. The primary difference between these reports is the level of detail presented to the requestor. This report is intended to comply with Standards Rule 2-2(a).

In the development of this report the Cost and Income Approaches to value were considered but were deemed to be inapplicable in the estimation of the value of the fee simple interest in the subject land and neither approach was utilized. This is a permitted departure from Standards Rule 1-4 of the Uniform Standards of Professional Appraisal Practice. The exclusion of these approaches will not produce any conclusion which would be misleading or which would have any effect upon the final opinion of value as reported herein.

CONTINGENT AND LIMITING CONDITIONS:

The certification of the Appraiser appearing in the appraisal report is subject to the following conditions and to such other specific and limiting conditions as are set forth by the appraiser in this report.

1. The Appraiser assumes no responsibility for matters of a legal nature affecting the property or the title thereto, nor does the Appraiser render any opinion as to the title, which is assumed to be good and marketable. The property is appraised as if held in "Fee Simple Title", unless otherwise specified, and is assumed to be under responsible ownership and competent management.
2. Any sketch in this report may show approximate dimensions and is included to assist the reader in visualizing the property. The Appraiser has made no survey of the property.
3. The appraiser is not required to give testimony or appear in court because of having made this appraisal with reference to the property in question, unless arrangements have been previously made therefore.
4. Any distribution of the valuation in the report between land and improvements applies only under the existing program of utilization. The separate valuations for land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
5. The Appraiser assumes that there are no hidden or unapparent conditions of the property, subsoil, structures, or hazardous material conditions which would render it more or less valuable. The Appraiser assumes no responsibility for such conditions.
6. Information, estimates, and opinions furnished to the Appraiser, and contained in this report, were obtained from sources considered reliable and believed to be true and correct. However, no responsibility for accuracy of such items furnished can be assumed by the Appraiser.

**CERTIFICATION:**

The Appraiser certify that, to the best of their knowledge and belief, the statements of fact contained in this report are true and correct. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and the Appraiser's personal, unbiased professional analyses, opinions, and conclusions.

The Appraiser have no present or prospective interest in the property that is the subject of this report, and have no personal interest or bias with respect to the parties involved.

The Appraiser's compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

The Appraiser's analyses, opinions, and conclusions were developed, and this report has been prepared in conformity with the Uniform Standards of Professional Practice as well as the by-laws and standards of the individual appraisal organization the Appraiser is affiliated with.

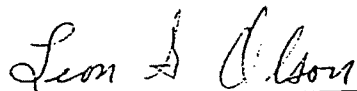
The Appraiser has not made a personal inspection of the property that is the subject of this report.

Leon Olson provided significant professional assistance to William Shaffer.

It is the Appraiser's opinion that the market value of the subject ground water as of March 31, 1997 is:

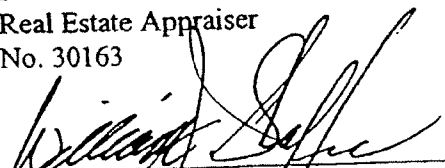
**EIGHTY-FIVE DOLLARS PER ACRE-FOOT**

**(\$85.00 Per Acre-Foot)**



Leon G. Olson  
State Certified General  
Real Estate Appraiser  
No. 30163

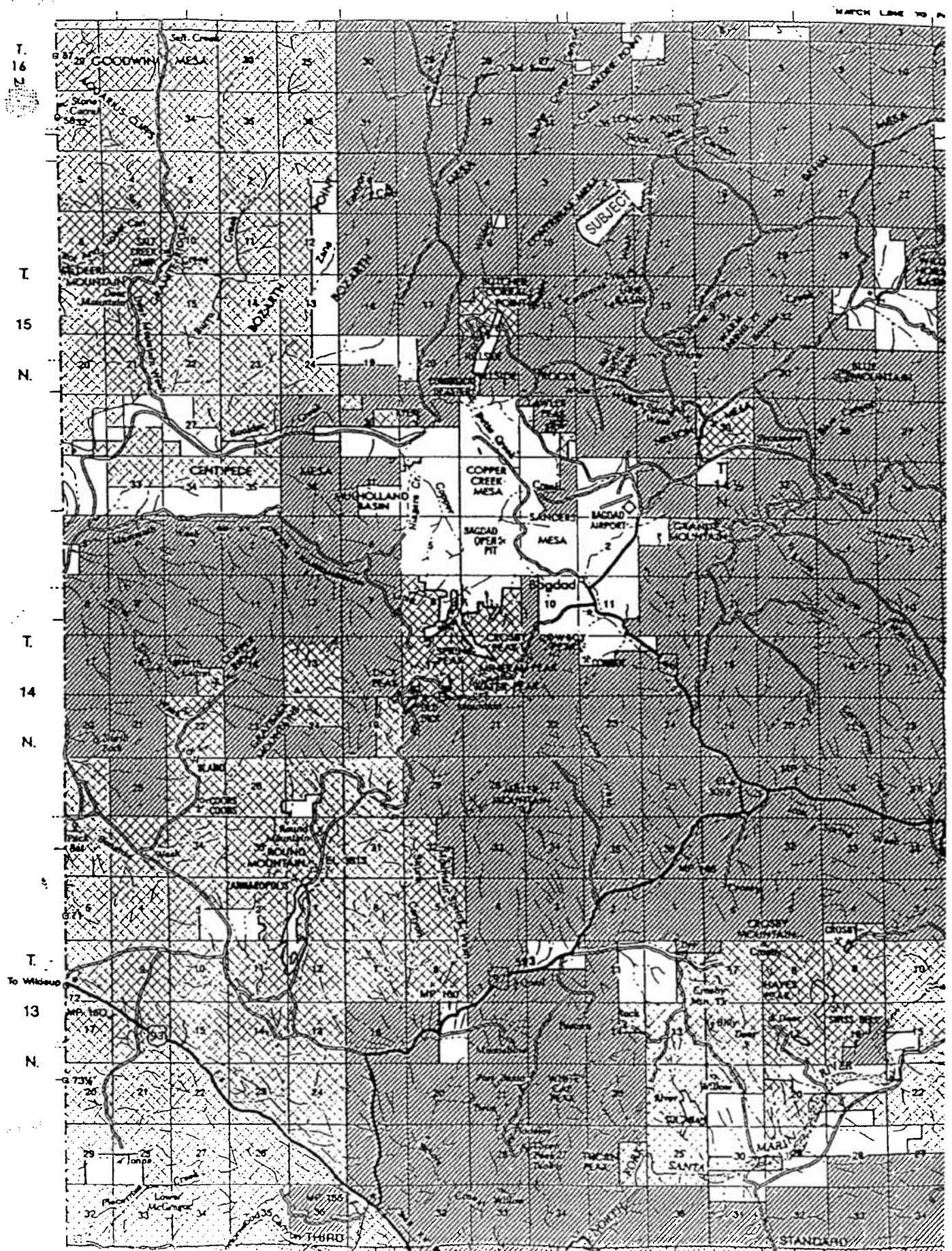
Date: Apr. 21, 1997



William J. Shaffer  
State Certified General  
Real Estate Appraiser  
No. 30012

Date: April 17, 1997

## **ADDENDA**



COMPARABLE NO. 1

LESSOR: Farmers participating in Palo Verde Irrigation District (California) land fallowing program.

LESSEE: Metropolitan Water District (Southern California Cities).

LOCATION: Palo Verde Irrigation District near Blyth, California.

LEASE DATE: 1992      QUANTITY: 92,989 Ac.Ft      UNIT PRICE: \$135.00/Ac.Ft.

SOURCE OF INFORMATION: Jan Matusak, Principal Engineer of the Metropolitan Water District.

COMMENTS: The average price paid to farmers to fallow a portion of their land was \$620 per acre, per year, and the water gain was computed at 4.6 acre-feet per acre per year at the head of the canal, though the actual gain was greater. This equates to a per acre foot price of \$135 using the 4.6 acre feet figure. A total of 20,215 acres were fallowed, yielding a gross water gain to urban areas of 93,000 acre-feet per year. The program was well received by farmers in the area and many expressed interest in participating in similar programs should they be implemented in the future. This is due to the fact that there is no crop that will yield a similar net return to the farmer on a virtually risk free basis.

COMPARABLE NO. 2

**LESSOR:** Central Arizona Water Conservation District (CAWCD)

**LESSEE:** Southern Nevada Water Authority (SNWA) and the Metropolitan Water District (MWD) of Southern California.

**LOCATION:**

**LEASE DATE:** 1993      **QUANTITY:** 100,000 Ac.Ft      **UNIT PRICE:** \$68.00/Ac.Ft

**SOURCE OF INFORMATION:** Larry R. Dozier, P.E., Assistant General Manager Engineering, Water Operations, Technical Support.

**COMMENTS:** SNWA and MWD participated in a program with the CAWCD to store portions of their Colorado River allotments in Arizona. Essentially, Arizona was paid \$68 per acre-foot to use 100,000 acre-feet of Colorado River water via the CAP canal. This water was used by farmers who would have pumped groundwater, which is therefore stored or "banked" for future use. In the event California or Nevada suffer a temporary water shortage, due for example to a drought, they can draw quantities of Colorado River water up to the amount they have "stored" and Arizona farmers will be able to draw on "banked" ground water resource.



COMPARABLE NO. 3

**LESSOR:** Central Arizona Water Conservation District (CAWCD)

**LESSEE:** Southern Nevada Water Authority (SNWA) and the Metropolitan Water District (MWD) of Southern California.

**LOCATION:**

**LEASE DATE:** Current      **QUANTITY:** 200,000 Ac.Ft      **UNIT PRICE:** \$105.00/Ac.Ft.

**SOURCE OF INFORMATION:** Larry R. Dozier, P.E., Assistant General Manager Engineering, Water Operations, Technical Support.

**COMMENTS:** Arizona would be paid \$105 per acre-foot to use 200,00 acre-feet of Colorado River water via the CAP canal. This water would be used by farmers who would have pumped ground water, which is therefore stored or "banked" for future use. In the event California or Nevada suffer a temporary water shortage, due for example to a drought, they can draw quantities of Colorado River water up to the amount "stored" and Arizona farmers would draw on a similar amount of "banked" ground water resource.

COMPARABLE NO. 4

**LESSOR:** State of Oklahoma, Commissioners of the Land Office

**LESSEE:** Beckham County Rural Water District # 3

**LOCATION:** Southwest Oklahoma

**LEASE DATE:** 1996 rate

**QUANTITY:** 1995 - 53,149,000 gallons(163 Ac.Ft.)  
1994 - 27,035,000 gallons( 82 Ac.Ft.)

**UNIT PRICE:** \$0.24517/1,000 gallons (\$79.89/Ac.Ft.)

**SOURCE OF INFORMATION:** Dan Hake and Larry Swanson, Real Estate Management Division,  
Oklahoma Commissioners of the Land Office

**COMMENTS:** Larry Swanson, Commercial Leasing Specialist with the Real Estate Management Division, stated that the rate per 1,000 gallons assessed on water leases were based on rates paid by municipal water companies in Oklahoma for water. He also stated that the scarcity of water in Arizona would indicate a higher unit value (for Arizona water).

COMPARABLE NO. 5

LESSOR: State of Oklahoma, Commissioners of the Land Office

LESSEE: Paunee County Rural Water District #1

LOCATION: Tucson, Arizona

LEASE DATE: 1995 rate

QUANTITY: 1995 - 62,569,000 gallons(192 Ac.Ft.)  
1994 - 55,072,200 gallons(169 Ac.Ft.)

UNIT PRICE: \$0.2158/1,000 gallons (\$20.32/Ac.Ft)

SOURCE OF INFORMATION: Dan Hake and Larry Swanson, Real Estate Management  
Division, Oklahoma Commissioners of the Land Office

COMMENTS: Larry Swanson, Commercial Leasing Specialist with the Real Estate Management Division, stated that the rate per 1,000 gallons assessed on water leases were based on rates paid by municipal water companies in Oklahoma for water. He also stated that the scarcity of water in Arizona would indicate a higher unit value (for Arizona water).

COMPARABLE NO. 6

**LESSOR:** State of Oklahoma, Commissioners of the Land Office

**LESSEE:** Town of Yale

**LOCATION:** Northeast Oklahoma

**LEASE DATE:** 1996 rate

**QUANTITY:** 1995 - 16,403,000 gallons(50.3 Ac.Ft.)  
1994 - 17,599,000 gallons(54 Ac.Ft.)

**UNIT PRICE:** \$0.2198/1,000 gallons (\$71.62/Ac.Ft.)

**SOURCE OF INFORMATION:** Dan Hake and Larry Swanson, Real Estate Management Division,  
Oklahoma Commissioners of the Land Office.

**COMMENTS:** Larry Swanson, Commercial Leasing Specialist with the Real Estate Management Division, stated that the rate per 1,000 gallons assessed on water leases were based on rates paid by municipal water companies in Oklahoma for water. He also stated that the scarcity of water in Arizona would indicate a higher unit value (for Arizona water).

COMPARABLE NO. 7

**LESSOR:** Colorado State Board of Land Commissioners

**LESSEE:** Ridgeview Metropolitan District

**LOCATION:** The old Lowry Bombing Range (situated on the eastern edge of the metropolitan area of Denver, Colorado.)

**LEASE DATE:** Pending

**QUANTITY:** 4,000 Ac.Ft.

**UNIT PRICE:** \$80.00 - \$90.00/Ac.Ft.

**SOURCE OF INFORMATION:**

William J. Killip II, Special Project Manager, Colorado State Board of Land Commissioners.

**COMMENTS:** The Ridgeview Metropolitan District and PureCyle Corporation have the right to pump ground water from the old Lowry Bombing Range (24,00 acres of Colorado state land) and sell it off of the property. A royalty is paid to the State of Colorado based on the fair-market value of the water. This money like all revenues generated from state land, goes to a trust fund for elementary and secondary schools. Ridgeview Metropolitan District (a revenue only district which can issue bonds to be retired with future revenue) is the lessee of the lease to sell ground water pumped for the old Lowry Bombing Range, and contracts with PureCyle Corporation for development and provide delivery service of water pumped.

Currently, the Army Corps of Engineers is negotiating with Ridgeview Metropolitan District to purchase 4,000 acre-feet per year of ground water to be pumped from the old Lowry Bombing Range for use off the property. The Army Corps of Engineers will use the ground water purchased to mitigate ground water contamination on the Rocky Mountain Arsenal (a superfund site). Bill Killip indicated that the sale should be completed within less than one year, with the royalty to the State of Colorado being \$80.00 to \$90.00 per acre-foot.

COMPARABLE NO. 8

LESSOR: The Arizona State Land Department

LESSEE: Various (70 active sales out of 83 total sales).

LOCATION:

SALE DATE: Current                      QUANTITY: Varies by sale

UNIT PRICE: \$65.00/Ac.Ft.

SOURCE OF INFORMATION: Arizona State Land Department files and records.

COMMENTS: There are currently 70 individual active water sales (leases for the right to extract ground water from Arizona State Trust lands), with a total of 83 individual leases authorized for extraction of ground water from Trust lands. Approved uses of ground water pumped from the active leases include:

- 19 leases for homesites (domestic use)
- 7 leases for home commercial use
- 3 leases for agricultural and commercial use
- 15 leases for home and livestock use
- 11 leases for commercial use
- 3 leases for institutional use (state institutions)
- 15 leases for industrial use
- 6 leases for agriculture and livestock use

Homesite and home commercial use sales of water range in size from less than one acre-foot to less than four acre-feet. These leases allow use of ground water for domestic and associated commercial activities. Individual sales of water for home agriculture and commercial, and home and livestock uses vary in size from less than one acre-foot to four and one-half acre-feet. Commercial leases for sale of ground water authorize a spectrum of uses including: RV parks, golf course irrigation, research installations, water utility and small commercial operation. These water sales utilized from less than one acre-foot to 365.6 acre-feet of ground water on an individual lease basis. The three institutional water sales are for use by State of Arizona institutions for correctional and rehabilitation and an interstate rest area. Volume of ground water utilized by these institutional leases was seven acre-feet for the interstate rest stop to less than 300 acre-feet the Department of Economic Security Training Center at Coolidge. Twelve industrial leases for water sales were active for the year. Ground water purchased was for as little as less than one acre-foot to 178.5 acre-feet per lease (water sale). Uses this ground water was put were test facilities, automobile proving grounds, sand and gravel extraction, a concrete plant, and mining operation. Ground water purchased under the seven operated leases for agriculture and livestock use varied from less than one acre-foot to 5.8 acre-feet.

Sale price for ground water extracted from Arizona Trust lands is currently \$65 per acre-foot.

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COMPARABLE NO. 8

COMPARABLE NO. 9

LESSOR: Arizona State Land Dept.

LESSEE: Santa Rita Ranch General Partnership

LOCATION: Approximately 4.2 miles southwest of the Houghton Road Interchange of Interstate - 10.

LEASE DATE: 12/01/96 to 05/21/05      QUANTITY: 150 Ac.Ft. Minimum to 520 Ac/Ft. Maximum

UNIT PRICE: \$85.00/Ac.Ft.

SOURCE OF INFORMATION:      Arizona State Land Department of Records

COMMENTS: The Santa Rita Ranch Partnership will transport the water from the well site on Arizona State Land via an 8 inch water transmission line across Arizona State Trust land to the Santa Rita County Club golf Course, at the community of Corona De Tucson, for turf irrigation. Corona De Tucson is located approximately 18 miles southeast of the City of Tucson.